REMARKS

In the Office Action, the Examiner notes that claims 1-15 are pending in this Application and that claims 1-15 stand rejected. By this response, all claims continue unamended.

In view of the following discussion, the Applicant submits that none of the claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102 or obvious under the provisions of 35 U.S.C. §103. Thus, the Applicant believes that all of these claims are now in allowable form.

REJECTIONS

A. 35 U.S.C. §102

The Examiner has rejected claims 1, 5, 9, 11 and 12 under 35 U.S.C. § 102(e) as being anticipated by Lauer et al. (U.S. Patent No. 6,118,936, Issued Sep. 12, 2000, hereinafter "Lauer "). The rejection is respectfully traversed.

The Examiner alleges that regarding claim 1, Lauer teaches a method for managing adjunct access for a circuit in a network management system, the method comprising the step of providing a manageable link (a linkset) representing each non-managed portion of the circuit (non-IEC nodes), responsive to a determination that a non-managed portion of the circuit exists. The Applicant respectfully disagrees.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 U.S.P.Q. 193 (Fed. Cir. 1983)) (emphasis added).

The Applicant respectfully submits that Lauer fails to disclose each and every element of the claimed invention, as arranged in the claim. The Applicant's invention, as defined in claim 1 (and similarly in claims 5, 9, and 12) recites:

"A method for managing adjunct access for a circuit in a network management system, the method comprising the step of: providing a respective manageable link representing each non-managed portion of the circuit, responsive to a determination that a non-managed portion of the circuit exists."

In support of at least claim 1, the Applicant, in the specification, specifically recites:

"It should be noted that the present invention does not require a specific communication service type. Moreover, a specific type of service may not be requested by a customer, such as a customer merely seeking a circuit path from a point of origination to a point of destination. Therefore, those skilled in the art and informed by the teachings of the present invention will be readily able to adopt any appropriate service type for use with the present invention." (See Specification, page 4, lines 1-7).

"By connecting a first Portion A, a second Portion B and a final Portion N via links, a continuous managed circuit is provided allowing the circuit 100 to be identified in the IEC's network management system with one circuit identifier as opposed to a circuit identifier for each portion of the circuit. In addition, the automated design process works efficiently because circuit 100 is managed from first Portion A to final Portion N. Also, alarm monitoring for circuit 100 is complete because each portion of circuit 100 is managed because the links provide a continuous circuit." (See Specification, page 6, lines 14-21).

"Referring now to FIG. 2, a circuit between a source and destination has been provisioned via a first portion A, a second Portion B and a final Portion N. A bridge between the first Portion A and second Portion B is formed using an adjunct access portion 101, illustratively a Local Access Transport Area 102. That is, the managed portions (first portion A and second portion B) proximate the non-managed portion 101/102 are used to bridge the non-managed portion. It is noted that the non-managed portion may comprise an adjunct access area 101, a leased facilities portion 103, or other non-managed portion of a circuit. The invention operates to characterize the non-managed portion as a manageable network element such as a link, thereby enabling network management system control of all portions of the provisioned circuit." (See Specification, page 7, lines 4-15).

As evident from the Applicant's disclosure (at least the sections provided above) and the Applicant's claims, the Applicant's invention is directed, at least in part, to providing a manageable link representing, in a network management system, each non-managed portion of a circuit in response to a determination that a non-managed portion of the circuit exists, wherein the present invention does not require a specific communication service type. As illustrated in the Applicant's specification, by connecting a first portion, a second portion, and a final portion of a circuit via respective, representative links, a continuous managed circuit is provided allowing the circuit to be identified in a network management system with one circuit identifier as opposed to a circuit identifier for each portion of the circuit. To further clarify the invention of at least claim 1, the Applicant, in the specification, specifically recites:

> "It is noted that the sixth link LNK_F spans an adjunct access area portion 101 between the first Portion A and second Portion B of the circuit. Since, in the embodiment of FIG. 1, the adjunct access area portion 101 is under the control of a local exchange carrier (LEC), the LEC provides its own equipment to bridge between the first Portion A and second Portion B of the circuit. However, the adjunct access area portion 101 is considered non-managed by the interexchange carriers (IEC) network management system since the IEC network management system has no knowledge of the equipment used by the LEC to connect the first Portion A to the second Portion B of the circuit. Thus, by using a sixth link LNK_E to connect the first Portion A to the second Portion B of the circuit, the IEC has made a non-managed portion of the circuit become a managed entity within the IEC's Network Management System. (See Specification, page 5, lines 12-21).

In further support of the claims, the Applicant, in the Specification, specifically recites:

> "FIG. 3 depicts a flow diagram suitable for use in provisioning the circuit of FIG. 1. Specifically, FIG. 3 depicts a flow diagram of a method 300 for provisioning a circuit 100 having adjunct access and/or leased access portions.
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> The method is entered at step 302 and proceeds to step 304, where a request to build a circuit is received. As previously mentioned with respect to FIG. 1, the request for a circuit can be for a particular

technology type (e.g., SONET) for any type suitable for transporting a customer's data, wherein different technology types may be used. The method 300 then proceeds to step 306.

At step 306 a circuit identifier is selected to identify the circuit. This is the main circuit identifier or parent circuit identifier. If the circuit is required to be broken into portions, each portion of the circuit will refer to the parent circuit identifier. This allows personnel retrieving a portion of a circuit to relate that portion of the circuit to the whole circuit. The method 300 then proceeds to step 308.

At step 308 a path for circuit 100 is selected. In selecting a path for circuit 100 an originating central office and a destination central office are selected which are as close to the customer as possible, conditions permitting. The method 300 then proceeds to step 310.

At step 310 a determination is made as to the existence of adjunct access areas and/or a requirement for leased facilities for the circuit. Portions of the circuit that go through areas under the control of the LECs or require that facilities be leased from a different IEC (for example, in order to meet a customer's due date for completion of the circuit) are considered non-managed by the network management system. The method 300 then proceeds to step 312.

At step 312 a query is made as to whether the circuit contains cross connects for bridging the managed and non-managed portions of the circuit. If the query at step 312 is answered affirmatively, the method proceeds to step 316. If the query at step 312 is answered negatively, the method proceeds to step 314 where cross connects are assigned to the non-managed and managed portions of the circuit.

After finding that cross connects exist for the managed and non managed portions of the circuit (312) or assigning cross connects to the managed and non-managed portions of the circuit (314), the method 300 proceeds to step 316 where links are assigned to connect a cross connect in a managed portion of the circuit to a cross connect in a non-managed portion of the circuit." (See Specification, page 7, line 29 through page 9, line 3).

Specifically in the extract of the disclosure cited above, the Applicant further clarifies how a non-managed portion of a circuit is reconfigured in a network management system to be considered a managed entity by the network management system.

In contrast to the invention of the Applicant, Lauer does not teach, suggest or disclose "providing a respective manageable link representing each non-managed portion of the circuit, responsive to a determination that a non-

managed portion of the circuit exists" as taught by the Applicant's specification and claimed in at least the Applicant's claim 1. In particular, the Lauer reference teaches a signaling network management system (SNMS) that collects network topology, traffic, performance and fault information, correlates that information and displays the information to system operators. The SNMS of Lauer includes a distributed client/server platform that receives and processes information relating to network events that is generated by various signaling network elements. Each network event in Lauer is parsed and formatted to a standardized format to allow processing of events generated by any type of element. The formatted events are correlated and displayed to system operators. The correlation of the different types of events is performed using programmable analysis rules. The system of Lauer also correlates signaling network events with transmission alarms and network maintenance schedule information. Such correlation allows system operators to account for outages due to transmission events, such as fiber cuts, and to network maintenance. (See Lauer, Abstract). Generally speaking, Lauer teaches a signaling network management system for converting network events into standard form and then correlating the standard form events with topology and maintenance information. In support of such a system and for the description of a process flow of the invention, Lauer specifically teaches:

> "Referring now to FIG. 4, a high-level process flowchart illustrates the logical system components of SNMS 300. At the heart of the process is Process Events 402. This component serves as a traffic cop for SNMS processes. Process Events 402, which runs primarily on the SNMS Alarming Server 302, is responsible for receiving events from other SNMS components, processing these events, storing events, and feeding processed event data to the Reporting and Display components. The Process Events process 402 is shown in greater detail in FIG. 5.
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> The Receive Network Events component 404, which runs primarily on the Alarming Server 302, receives network events from the various SS7 network elements (STPs 104, SPs 102, PMUs 106, etc.) via systems such as SWIFT 326 and LSE 330. It also receives network maintenance events from a Network Maintenance Schedule system 340. This component parses the events and sends them to Process Events 402 for analysis. The Receive Network Events process 404 is shown in greater detail in FIG. 6.

The Process Topology component 406, which runs primarily on the Topology Server 306, receives network topology and configuration data from the Network Topology Databases 334, from the SS7 network elements via the Control System 332, and from Manual Overrides 336. This data is used to correlate network events and to perform impact assessments on such events. It is also used to provide graphical presentation of events. Process Topology 406 parses these topology and configuration data, stores them, and sends them to Process Events 402 for analysis. The Process Topology process 406 is shown in greater detail in FIG. 7a.

The Define Algorithms component 408, which runs primarily on the Alarming Server 302, defines the specific parsing and analysis rules to be used by SNMS 300. These rules are then loaded into Process Events 402 for use in parsing and analysis. The algorithms are kept in a software module, and are defined by programmed code. A programmer simply programs the pre-defined algorithm into this software module, which is then used by Process Events 402.

These algorithms are procedural in nature and are based on network topology. They consist of both simple rules that are written in a proprietary language and can be changed dynamically by an SNMS user, and of more complex rules which are programmed within SNMS software code. No further detail of this process is needed.

The Receive NMS Data component 410, which runs primarily on the Alarming Server 302, receives events from other network management systems (NMS) 338. Such events include DS-3 transmission alarms. It then parses these events and sends them to Process Events 402 for analysis. No further detail of this process is needed.

The Display Alarms component 412, which runs primarily on the Graphics Server 308 and the Alarming Server 302, includes the Graphical User Interface (GUI) and associated software which supports topology and alarm presentation, using data supplied by Process Events 402. It also supports user interactions, such as alarm clears, acknowledgments, and trouble ticket submissions. It inputs these interactions to Process Events 402 for storing and required data updates. The Display Alarms process 412 is shown in greater detail in FIG. 8a.

The Report On Data component 414, which runs primarily on the Reporting Server 304, supports the topology and alarm reporting functions, using data supplied by Process Events 402. The Report On Data process 414 is shown in greater detail in FIG. 9." (See Lauer, col. 6, line 32 through col. 7, line 31).

The Examiner, for his rejection of claims 1, 5, 9, 11 and 12 of the Applicant's invention, equated the Display Alarms component of Lauer, which

runs primarily on the Graphics Server and the Alarming Server and includes the Graphical User Interface (GUI), for anticipating the invention of the Applicant. More specifically, the Examiner cited Figures 8b, 8c and 8e, and the teachings of col. 4, lines 33-48; col. 13, line 55 through col. 14, line 9; and col. 14, lines 18-29 as specifically anticipating the invention of the Applicant. However, the Applicant respectfully submits that those very sections specifically recite that the Lauer does not anticipate the invention of the Applicant. More specifically, with respect to the sections specifically cited by the Examiner, Lauer specifically recites:

> "FIG. 8c is an example of an SNMS Connections Map screen display window. This window presents a cluster view of the IEC signaling network. All IEC and non-IEC nodes connected to the IEC STPs in the cluster are displayed along with the associated linksets. A cluster view is important since a single STP failure/isolation is not service impacting, but a cluster failure is since all IEC SPs have connectivity to both IEC STPs in the cluster. Each node is bounded by two distinct lines, one extending from the left, such as line 890, and one extending from the right, such as line 891, that represent linksets to other distinct nodes. By selecting (i.e., mouse point-and-click) a linkset, information pertaining to that linkset is displayed, as illustrated in FIG. 8b.
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> FIG. 8d is an example of an SNMS Nonadjacent Node Map screen display window. This window presents an STP pair view of a selected LEC signaling network. **All LEC SPs, STPs, and SCPs (with signaling relationships to the IEC network) connected LEC STP pair are displayed. IEC's area of responsibility does not include the LEC STP to LEC SP signaling links, so no linksets are displayed here.** This display allows the SNMS operator to monitor a LEC signaling network as seen by the IEC nodes.
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> FIG. 8e is an example of an SNMS LATA Connections Map screen display window. This window presents a map of all LEC owned nodes that are located within a specified LATA. As well, the IEC STP pair that serves the LATA is also displayed along with the associated linksets (where applicable). This display allows the operator to closely monitor a specific LATA if/when problems surface within the LATA. **LATA problems, while outside IEC's domain of control**, can introduce problems within the IEC network since signaling messages are shared between the networks. As well, IEC voice traffic which terminates in the specified LATA can be affected by LATA outages." (See Lauer, col. 13, line 64 through col. 14, line 29). (emphasis added).

As clearly evident from at least the portions of Lauer cited above, there is absolutely no teaching, suggestion or disclosure in Lauer for "providing a respective manageable link representing each non-managed portion of the circuit, responsive to a determination that a non-managed portion of the circuit exists" as taught by the Applicant's specification and claimed in at least the Applicant's claim 1. More specifically, and as clearly evident by the portions of the teachings of Lauer presented above, Lauer specifically teaches away from the invention of the Applicant, at least with respect to claim 1, for "providing a respective manageable link representing each non-managed portion of the circuit, responsive to a determination that a non-managed portion of the circuit exists." Lauer, in contrast to the invention of the Applicant, specifically recites that the IEC's area of responsibility does not include the LEC STP to LEC SP signaling links, and as such no linksets are displayed in the Graphical User Interface of a user. Lauer further teaches that LATA problems are outside the IEC's domain of control further demonstrating that Lauer in no way teaches, suggests or disclose the invention of the Applicant for a method and apparatus for managing adjunct access and for designing a complete circuit including providing a respective manageable link representing each non-managed portion of a circuit in response to a determination that a non-managed portion of the circuit exists. Again, the invention of Lauer merely teaches a signaling network management system for converting network events into standard form and then correlating the standard form events with topology and maintenance information. Lauer does not teach, suggest or disclose a method or apparatus for managing adjunct access and for designing a complete circuit including providing a respective manageable link representing each non-managed portion of a circuit in response to a determination that a non-managed portion of the circuit exists as taught and claimed by the Applicant. As such, for at least the reasons stated above, the Applicant respectfully submits that Lauer fails to teach each and every element of the claimed invention, as arranged in the claim, and as such fails to anticipate the invention of the Applicant.

Therefore, the Applicant submits that independent claim 1 is not anticipated by the teachings of Lauer and, as such, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

Likewise, Independent claims 5, 9 and 12 recite similar relevant features as recited in independent claim 1. As such, the Applicant submits that independent claims 5, 9 and 12 are also not anticipated by the teachings of Lauer and also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

Furthermore, dependent claim 11 depends directly from independent claim 9 and recites additional features therefor. As such and for at least the reasons set forth herein, the Applicant submits that dependent claim 11 is also not anticipated by the teachings of Lauer. Therefore the Applicant submits that dependent claim 11 also fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

The Applicant reserves the right to establish the patentability of each of the claims independently in subsequent prosecution.

B. 35 U.S.C. §103

The Examiner rejected claims 2-4, 6-8, 10 and 13-15 under 35 U.S.C. §103(a) as being unpatentable over Lauer in view of well-know prior art. The rejection is respectfully traversed.

Claims 2-4 depend from independent claim 1 and recite additional features thereof. For example, claim 2, when combined with independent claim 1, recites:

> "A method for managing adjunct access for a circuit in a network management system, the method comprising the step of:
> **providing a respective manageable link representing each non-managed portion of the circuit**, responsive to a determination that a non-managed portion of the circuit exists wherein each respective manageable link is coupled to at least one of a Digital Cross Connect (DCS), a Light wave Guided Cross

Connects (LGX), and a Distribution Drop Point (DDP)." (emphasis added)

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 U.S.P.Q. 1021, 1024 (Fed. Cir. 1984) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 U.S.P.Q. 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added).

The Examiner applied Lauer for his rejection of claims 2-4, 6-8, 10 and 13-15 as applied above for his rejection of claims 1, 5, 9, 11 and 12. However, and for at least the reasons clearly disclosed above, the Applicant respectfully submits that Lauer does not anticipate the Applicant's claims 1, 5, 9, 11 and 12. More specifically, and as described above, there is absolutely no teaching, suggestion or disclosure in Lauer for "providing a respective manageable link representing each non-managed portion of the circuit, responsive to a determination that a non-managed portion of the circuit exists" as taught by the Applicant's specification and claimed in at least the Applicant's independent claims 1, 5, 9 and 12. That is, and as clearly evident by the portions of the teachings of Lauer presented above, Lauer specifically teaches away from the invention of the Applicant, at least with respect to independent claims 1, 5, 9 and 12 for "providing a respective manageable link representing each non-managed portion of the circuit, responsive to a determination that a non-managed portion of the circuit exists." Lauer, in contrast to the invention of the Applicant, specifically recites that the IEC's area of responsibility does not include the LEC STP to LEC SP signaling links, and as such no linksets are displayed in the Graphical User Interface of a user. Lauer further teaches that LATA problems are outside the IEC's domain of control further demonstrating that Lauer in no way teaches, suggests or disclose the invention of the Applicant for a method and apparatus for managing adjunct access and for designing a complete circuit

including providing a respective manageable link representing each non-managed portion of a circuit in response to a determination that a non-managed portion of the circuit exists. Again, the invention of Lauer merely teaches a signaling network management system for converting network events into standard form and then correlating the standard form events with topology and maintenance information. Lauer does not teach, suggest or disclose a method or apparatus for managing adjunct access and for designing a complete circuit including providing a respective manageable link representing each non-managed portion of a circuit in response to a determination that a non-managed portion of the circuit exists as taught and claimed by the Applicant. As such, for at least the reasons stated above, the Applicant respectfully submits that Lauer fails to teach each and every element of the claimed invention, as arranged in the claim, and as such fails to anticipate the invention of the Applicant.

In addition, the Applicant respectfully disagrees with the Examiner taking Official Notice that it is well known in the art to use a Digital Cross Connect in a communications network as defined and claimed by the Applicant's invention, to couple multiple end users to a single circuit, thereby allowing efficient use of circuit resources. As such, the Applicant respectfully submits that it would not have been obvious to one of ordinary skill in the art at the time of the invention to modify Lauer, such that each manageable link of the Applicant's invention is coupled to a Digital Cross Connect in order to efficiently use circuit resources.

Therefore, at least because the teachings of Lauer do not suggest, teach or describe the invention of the Applicant regarding independent claims 1, 5, 9 and 12, the Applicant respectfully submits that the teachings of Lauer also do not teach, suggest, or describe the invention of the Applicant regarding claims 2-4, 6-8, 10 and 13-15, which depend either directly or indirectly from the Applicant's independent claims 1, 5, 9 and 12 and recite additional limitations thereof, and do not render the Applicant's claims 2-4, 6-8, 10 and 13-15 obvious.

As such, the Applicant submits that claims 2-4, 6-8, 10 and 13-15, as they now stand, are not obvious and fully satisfy the requirements under 35 U.S.C. §103 and are patentable thereunder.

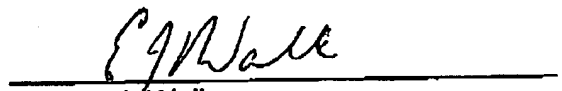
The Applicant reserves the right to establish the patentability of each of the claims independently in subsequent prosecution.

CONCLUSION

Thus, the Applicant submits that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. § 102 or obvious under the provisions of 35 U.S.C. § 103. Consequently, the Applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Jorge Tony Villabon at (732) 530-9404 x1131 or Mr. Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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